## Genes at the Zoo

R. FLEISCHER

**Nene.** *Rare Hawaiian goose (pronounced "naynay").*

Showcasing animals is only part of what a world-class zoo does these days; research and conservation are all the rage. And the Smithsonian Institution's National Zoo in Washington, D.C., has put itself at the cutting edge: This month it opened a new laboratory for molecular genetics. The lab's director Robert Fleischer says he knows of only two other (and smaller) zoo-based genetics labs: at San Diego and at Chicago's Brookfield Zoo.

A primary focus of the new $320,000 facility is to learn more about and help propagate endangered species. For example, Fleischer, a research zoologist recruited last spring from the University of North Dakota, says one project is to determine whether warbler couples are monogamous by examining the DNA of warbler chicks. Fleischer —an expert in the Hawaiian goose—is himself pursuing avenues to prevent extinction, such as looking for genes present in wild geese that aren't found in the captive ones. Such analyses can help optimize the mating choices of endangered species to ensure the production of healthy, non-inbred offspring. Evolutionary biology is another thrust of the lab. Researchers will look for new clues about the rate of evolution of particular species, as well as the loss of genetic diversity, by comparing DNA-bearing tissue from museum specimens of extinct animals with today's animals.

trade in his rubber band for an ensemble of three tungsten pegs pushed through holes in several inch-long rubber strips attached to the strings. Engineers rigged up some rackets this way, pursuing a concept that underlies noise and vibration control on aircraft and other vehicles: the vibrations of one component cancel out those of another. Thus equipped, a racket gives a nearly vibrationless thud when struck, while an ordinary one trembles noticeably.

Anatrol cares about more than suffering tennis pros. Another of its innovations quells vibrations in the aluminum bats used these days by little league baseball players. "It's so painful for some kids, they drop the bat," Ahid explained at a recent meeting on "smart materials" held by the American Defense Preparedness Association in Alexandria, Virginia. So, in a joint project with the California-based Easton Aluminum Inc., Anatrol stepped up to the plate by implanting in bats a metal weight flanked by a pair of rubbery damping cushions.

The sports equipment market is only one arena that gives Ahid good vibes about the future of his line of work. "People have grown accustomed to saying that sound and vibration [in consumer and mechanical products] are bad," he says. What's bad for them might be good for Anatrol.

## Machines Who Think

Sample exchange from a recent gathering in Cambridge, Massachusetts:

A: "I just got wonderful news from my real estate agent in Florida—they found property on my land."

B: "Wonderful!"

A: "I wonder what it means to be human."

A '60s nostalgia party, complete with drugs? No, the first-ever Turing test. That test, you may remember, was the brainchild of the late, brilliant British mathematician Alan Turing. In 1950 he predicted that by 2000, computers could be programmed so that after 5 minutes of questioning, the average interrogator would not have more than a 70% chance of telling whether he was talking to a machine or a person.

This month, six computer programs were put to a limited version of Turing's test. The event, staged by Boston's Computer Museum and the Cambridge Center for Behavioral Studies, featured 10 human judges who conversed via keyboard with either a person or a computer program—each of which was restricted to a single topic. After each 14-minute "conversation," the judges had to guess the nature of their interlocutor.

Even with the limitation on subject matter, artificial intelligence experts weren't expecting much. So most were surprised when the winning entry—a version of the program PC Therapist by software entrepreneur Joseph Weinstein of Woodside, New York—was not only voted the most human-like but actually convinced five of the judges that they were conversing with a human when they weren't.

Not everyone was blown over by the result. "This test will show how near we are to where we started—how little we've progressed in the past 25 years," commented MIT computer scientist Joseph Weizenbaum, who almost 30 years ago created ELIZA, one of the first conversational computer programs.

Weinstein won $1500 in the contest, which was financed by businessman and philanthropist Hugh Loebner. Loebner is now offering $100,000 to the program that can win an unrestricted Turing test. When might that happen? "Certainly not in this century," said museum board member Edward Belove.

## Online Journals

When the AAAS and OCLC Online Computer Library Center announced the scheduled debut next year of their new journal—*The Online Journal of Current Clinical Trials*—they said it would be the world's first peer-reviewed, online science journal (*Science*, 27 September, p. 1480). Since then, two other such journals have made their presence known to *Science*. They are *Solstice: An Electronic Journal of Geography and Mathematics*, published by Sandra Lach Arlinghaus of the Institute of Mathematical Geography in Ann Arbor, Michigan, and *Flora Online*, published by Richard H. Zander, curator of botany at the Buffalo Museum of Science. Both have been around for about 2 years and are available free over several popular research computer networks.

## Engineering First

Martha E. Sloan, professor of electrical engineering at Michigan Technological University in Houghton, has become the first woman be be elected president of the Institute of Electrical and Electronics Engineers (IEEE). A petition candidate, she beat out three men nominated by the IEEE board. She will take office on 1 January 1993.